REMARKS

The Office Action of May 31, 2006 has been carefully studied. Attached hereto is a check and the requisite amount for a one-month extension of time. The claims in the case are now 2-21. No claim has yet to be allowed.

Before discussing the contents of the Office Action, it is noted that Applicants provide a new abstract on a separate page. Furthermore, the specification is amended so as to eliminate surplusage on the one hand, and to change the subheading "Summary Description of the Figures" to --Brief Descriptions of the Figures--.

It is also to be noted that claim 1 is replaced by new independent claim 14 which is believed to point out Applicants' invention in a clearer manner. For purposes of orientation, it will be recalled that the present invention is directed to an improvement in the operation of regenerative reforming reactors and the like. Reforming is an old unit process in the petroleum field as discussed on columns 3 and 4 of the cited Sikonia patent 4,167,474. The equipment to operate this process is a very large, generally complex, and expensive. A well-recognized problem which occurs in the reforming process is the deposition of coke on the catalyst. It is thus necessary to remove the coke by regenerating the catalyst at high temperatures before it is returned to the reactor. In general, two or more, preferably four reactors are used in moving bed processes for conducting the reforming reaction. Applicants have noted that different amounts of coke are found on each of the spent catalysts removed from different reactors. Accordingly, Applicants now provide a process which collects the spent coke-containing catalysts from the reactors and passes them to a zone for homogenization which is intended to provide a mean degree of coke contamination on the catalyst (page 8 of Applicants' specification). Furthermore, when the resultant regenerated catalyst is recovered, it is sent to a distribution zone which is common to at least two of the reactors. The regenerated catalyst is then sent, except for the possibility of intermediate reduction steps, to the reactors. Thus, in Applicants' process, there is no separation of the regenerated catalysts so as to attempt to segregate the catalysts into different types.

The Rejection

All of Applicants' claims are rejected under 35 U.S.C. 103 as being unpatentable over Carson U.S. 3,470,090 in view of Sikonia U.S. 4,167,474. Applicants have studied these references diligently, and respectfully submit that they do not address the problem which Applicants have solved, much less the means for accomplishing same. In support of this contention, the following discussion of the references is presented for the Examiner's consideration.

Carson 3,470,090

This reference is directed to a method for operating a non-regenerative fixed bed reforming process which is nowise similar to Applicants' process. Apparently, the key to the inventive part of this reference is the periodic addition of fresh catalyst to one selected fixed bed reactor and simultaneously removing used catalysts from that reactor while maintaining all other reactors in the system. Thus, this reference does not suggest a regenerative reforming process, much less any problem regarding fluctuations in the amount of coke on catalysts removed from several columns and the regeneration of such catalysts, even less the manipulative steps which Applicants employ to solve the problem. Accordingly, Applicants respectfully submit that this reference is not relevant to Applicants' invention.

Sikonia 4,167,474

This reference is more pertinent since it is directed to a moving bed catalytic reforming process wherein catalyst particles are at least periodically withdrawn from each of the reactor systems and introduced into a common regenerating tower. However, this reference is based on the use of at least two different types of catalysts for conducting the reforming process, and a crucial step in this process is the separation of the regenerated catalysts into different types, one from the other, before passing each type of catalyst into respective reactors. (Column 9, line 55 through column 10, line 6).

Conversely, this reference does not suggest homogenizing spent catalysts from two different reactors in order to achieve a mean percentage of coke before the resultant homogenized

product is passed into the regenerator. Actually, a step of homogenizing would make it more difficult to separate the different types of catalyst and therefore would be contrary to the basic teaching of the Sikonia reference. For this reason alone, Applicants' process is clearly unobvious compared to the teachings of this reference by itself or combined with Carson.

In addition, in Applicants' original claim 1, there was the expression "the regenerated catalyst that is obtained from said regeneration zone directly supplies at least two reactors of the series starting from a common distribution zone. The term "directly" was meant to demonstrate that Applicants' catalyst was not separated in the manner of the Sikonia process. Conversely, Applicants' process contemplates reduction steps conducted in the common distribution zone and/or in a zone downstream thereof (page 12 of Applicants' specification). Consequently, to remove any ambiguity, new claim 14 does not contain the word "directly" since Applicants' process is unobvious by virtue of the homogenizing step which solves a problem not suggested by the references. Moreover, as seen from the following discussion of the newly added claims, there are further distinctions which clearly are not found in the teachings of Sikonia and Carson.

Newly Added Claims

Claim 14 replaces claim 1 and is discussed above.

Claim 15 requires that the homogenizing of the coke containing catalyst be conducted by passing the catalyst to a fluidized zone, as disclosed on page 11 of Applicants' specification.

Claim 16 requires that the homogenizing be conducted by passing the catalyst to a multi-mixing zone, as discussed on page 10 of Applicants' specification.

Claim 17 provides a reduction of the catalysts in the common distribution zone, as disclosed on page 12 of Applicants' specification.

Claim 18 requires that the catalyst in the distribution zone be homogeneous -- which is implicit from the nature of Applicants' homogenizing step.

Claim 19 explicitly states that the catalyst in the distribution zone is not subjected to a separation step so as to provide different types of catalysts. Whereas there is no expressis verbis support in the specification, it is respectfully submitted that one of ordinary skill in the art

reading the present specification would have understood that Applicants had possession of such an invention at the time of the filing of the present application. Also, implicit support is found insofar as the specification is directed to a different problem not requiring different types of catalysts but rather focuses on the different contents of coke that adhere to spent catalysts. Further implicit support is found in the drawing where there is no size separation or the like of the catalysts going from the distribution zone to the reactors.

Claim 20 is similar to original claim 1 insofar as the regenerated catalyst from the distribution zone is passed directly to at least two reactors, but in view of the disclosure of a reduction step, the claim further contains the expression "optionally reduced in an intermediate reduction step".

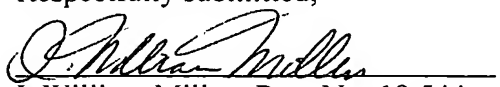
Claim 21 is dependent on claim 17 and requires a further reduction step as disclosed on page 8 of the specification.

In the absence of a more pertinent reference, it is respectfully submitted that there is ample legal basis for the Examiner to withdraw the rejections at hand and pass the case to issue.

If there are any remaining issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously invited to telephone Counsel at the number indicated below. If Counsel is unavailable, the Examiner is also invited to speak to Ms. Richardson at 703-812-5326, and she will be happy to obtain the services of another attorney to resolve any minor issues.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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